



December 14, 2005  
AET 05-0102

Mr. Jack R. Strosnider  
Director, Office of Nuclear Material Safety and Safeguards  
Attention: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**American Centrifuge Plant  
Docket Number 70-7004  
Submittal of Additional Information Regarding Depleted Uranium Disposal Costs for the  
American Centrifuge Plant (TAC Nos. L32306, L32307, and L32308)**

Dear Mr. Strosnider:

Pursuant to a request by the U.S. Nuclear Regulatory Commission (NRC) staff (Reference 1), USEC Inc. (USEC) hereby submits additional information related to depleted uranium disposal costs for the American Centrifuge Plant.

Enclosure 1 provides the U.S. Department of Energy letter that the NRC staff requested USEC obtain concerning the cost estimate for dispositioning tails for the American Centrifuge Plant.

If you have any questions regarding this matter, please contact Peter J. Miner at (301) 564-3470.

Sincerely,

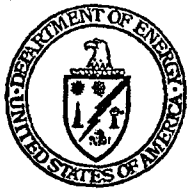
Steven A. Toelle  
Director, Nuclear Regulatory Affairs

cc: Y. Faraz, NRC HQ  
B. Smith, NRC HQ

Reference: 1. E-mail from Y. Faraz to B. Smith, USEC/NRC conference call summary on depleted uranium tails disposition cost, dated September 28, 2005.

Enclosure: As Stated

NMB501



## Department of Energy

Washington, DC 20585

December 12, 2005

Mr. Phillip Sewell  
Senior Vice President, USEC, Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817

Dear Mr. Sewell:

**RE: Conversion and Disposal of Depleted Uranium Hexafluoride (DUF6) Generated by USEC at the American Centrifuge Plant in Piketon, Ohio**

The purpose of this letter is to respond to USEC's inquiry, as detailed in your letter dated December 8, 2005, as to anticipated storage, conversion and disposal costs for the DUF6 Source Material product to be generated by USEC's proposed American Centrifuge Plant, in the event USEC were to request that the Secretary accept the DUF6 for conversion and disposal.

Should the Department accept, upon request, such DUF6 for conversion and disposal pursuant to authorities granted to the Department under the Atomic Energy Act or other authorities, the Department's acceptance of such material would necessitate the negotiation of an agreement for storage, conversion and disposal services that would include full recovery of the Department's costs, including a pro rata share of any capital costs, and that would include the terms and conditions under which the Department would accept title to and possession of the DUF6.

In response to the inquiry made by USEC, the Department reviewed information that USEC provided to DOE as well as information developed in preparing a previous cost estimate for providing conversion and disposal services. The information that DOE reviewed included USEC's projection that it would generate approximately 9,520 metric tons of DUF6 annually, beginning in 2010.

Your letter stated that USEC utilized the tails disposal cost estimate provided in the DOE March 1, 2005 letter to LES, to arrive at a tails disposal cost of "\$4.83/kg U (\$3.34/kg depleted uranium hexafluoride [UF<sub>6</sub>]) less \$0.08 (the estimated cost of transportation from New Mexico to the DOE conversion facility)." Based upon our review of the information described above, the Department has reached two conclusions.

First, the assumptions and unit cost estimate in your letter are consistent with the projected DUF6 conversion and disposal costs, including contingencies, contained in DOE's FY2006 Congressional Budget Request (with the exception of cost differences attributable



to the fact that DOE's budget request reflects the conversion of DOE's DUF6 inventory and does not reflect the conversion and disposal of additional DUF6 volume from USEC's American Centrifuge Plant).

Second, USEC's assumptions and unit cost estimate are consistent with the cost estimate that the Department has previously completed, which concluded that the cost of converting and disposing of DUF6 would be approximately \$3.34/kg DUF6, assuming a DUF6 generation rate of approximately 7,800 metric tons of DUF6 annually beginning in 2010. That cost estimate included \$0.08 for transporting the DUF6 to the conversion site (assumed to be 1500 miles) that would not be appropriate for USEC's DUF6. The previous cost estimate completed by DOE reflected the following costs: construction (capital costs); storage of the DUF6 pending conversion; DUF6 conversion; transportation of depleted uranium to a disposal site (approximately 1900 miles); disposal of depleted uranium oxide as Low Level Radioactive Waste; decontamination and decommissioning (D&D) of the conversion facility, and appropriate project contingencies.

The following is an approximate break-out (per kilogram of DUF6) of the four principal components of the abovementioned cost estimate (without the \$0.08 additional transportation cost):

Conversion (capital and operating costs)	\$2.68
Transportation	\$0.03
Storage	\$0.003
Disposal (including D&D)	<u>\$0.55</u>
TOTAL	\$3.26

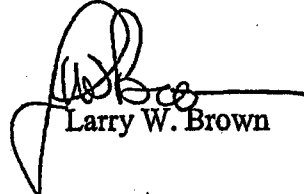
The Department's assumptions for the abovementioned cost estimate are that the DUF6 would be converted, stored, and disposed of consistent with the terms and conditions of the Department's current contract for the construction and operation of the conversion facilities at the Portsmouth and Paducah Gaseous Diffusion Plants and DUF6 storage facilities. The cost estimate also assumes that acceptance of USEC's DUF6 would not alter the Department's currently anticipated operating conditions and assumptions for the storage, conversion, and disposal facilities. The cost estimate further assumes that the DUF6 cylinders would meet Department of Transportation (DOT) transportation requirements, and accordingly the cost estimate does not include any incremental costs for meeting such DOT requirements. The cost estimate does not assume any resale or reuse of any products resulting from the conversion process. Further, the cost estimate does not assume any reduction in per unit costs as a result of processing increased volumes.

The Department's conclusions relative to USEC's cost estimate are subject to change as assumptions and circumstances change and as the Department receives actual cost and performance data from the conversion project after operations begin in the year 2007. The Department understands that USEC may provide the information contained in this letter to the Nuclear Regulatory Commission (NRC) in support of USEC's decommissioning cost estimate during the license application process, and that if a license is granted that there is an established process at the NRC for a licensee to adjust its decommissioning cost

estimate, and that this process would account for future refinements in the cost estimate for the disposal of depleted uranium.

If you have any questions about the cost estimate or other contents of this letter, please contact me at 202-586-9500.

Sincerely,



Larry W. Brown

cc:

W. Murphie, PPPO  
Linda Gunter, NE-60